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EXAMINER

HASHEM, LISA

ART UNIT PAPER NUMBER

2645

DATE MAILED: 08/02/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/932,870

Applicant(s)

BUFFMIRE ET AL.

Examiner

Lisa Hashem

Art Unit

2645

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1, 2.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-15 are pending in this office action.

#### ***Information Disclosure Statement***

2. An initialed and dated copy of Applicant's IDS form 1449, Paper Nos. 1 and 2, is attached to the instant office action.

#### ***Claim Objections***

3. Claims 7, 8, 10, 11, and 12 are objected to because of the following informalities: Claim 7, 8, 10, 11, and 12 recite the limitation "the group" in pages 14 and 15. There is insufficient antecedent basis for this limitation in the claim.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 6-7, 10-11, and 14-15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 5,192,954 by Brockelsby et al, hereinafter Brockelsby.

Regarding claim 6, Brockelsby discloses an intrinsic pavement transmitter and antenna, comprising a roadway (see Figure 25, 67), including: a) a suitable wearing course material (Figure 2, 9); and b) an effective amount of radio frequency conductive material, inherently sufficient to transmit and receive radio frequencies (see Figure 2; column 5, lines 6-27; column 6, lines 19-41 and 59-66).

Regarding claim 7, the intrinsic pavement transmitter and antenna of claim 6, wherein Brockelsby further discloses the radio frequency conductive material is at least one member selected from a group consisting of: radio frequency transmittable polymers, metal shavings, metal dust, and conductive carbons (column 5, lines 6-27; column 6, lines 19-41 and 59-66; column 8, lines 1-64).

Regarding claim 10, the intrinsic pavement transmitter and antenna of claim 7, wherein Brockelsby further discloses the metal shavings are at least one member selected from a group consisting of: iron, iron alloys, aluminum, aluminum alloys, copper, and copper alloys (column 8, lines 1-64).

Regarding claim 11, the intrinsic pavement transmitter and antenna of claim 7, wherein Brockelsby further discloses the metal dust is at least one member selected from a group consisting of: iron, iron alloys, aluminum, aluminum alloys, copper, and copper alloys (column 8, lines 1-64).

Regarding claim 14, the intrinsic pavement transmitter and antenna of claim 6, wherein Brockelsby further discloses the conductive material and the wearing course material are substantially distinct layers (see Figure 2).

Regarding claim 15, the intrinsic pavement transmitter and antenna of claim 6, wherein Brockelsby further discloses an insulating layer proximate the roadway (column 8, lines 7-15).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,192,954 by Brockelsby and in further view of U.S. Patent Application No. US 2002/0128769 by Der Ghazarian et al, hereinafter Der Ghazarian.

Regarding claim 1, Brockelsby discloses a radio communications system (see Abstract) comprising: a) an intrinsic pavement transmitter and antenna (see Figure 1; column 5, lines 6-21; Figure 25, 67; column 9, lines 1-38); b) a first transmitter/receiver (Figure 25: 67), at a first point along the intrinsic pavement transmitter and antenna; and c) a second transmitter/receiver or transponder (Figure 27: 63, 71), at a second point along the intrinsic pavement transmitter and antenna; wherein the intrinsic pavement transmitter and antenna conducts radio frequency signals between the first and second transmitter/receiver.

Brockelsby does not disclose the first transmitter/receiver and the second transmitter/receiver are each in communication with an end-user.

Der Ghazarian discloses an Electronic Vehicle Monitoring System comprising: a) a RF electromagnetic Transceiver unit (see Figure 2, 30; page 5, section 0058, lines 18-21); a first transmitter/receiver or parking space transceiver unit (Figure 2, 22), at a first point along a parking space, and in communication with an end-user or employee of a vehicle dealership using computer (page 1, section 0003, lines 1-18; Figure 2, 21); and c) a second transmitter/receiver or

vehicle transceiver unit (Figure 2, 23), at a second point along the parking space, and in communication with an end-user or driver of the vehicle (page 4, section 0040, lines 1-21); wherein the RF electromagnetic Transceiver unit conducts radio frequency signals between the first and second transmitter/receiver (page 5, section 0058, lines 18-21; page 6, section 0060, line 1 – section 0064, line 12).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Brockelsby to include communication with end-users as taught by Der Ghazarian to provide communication from a first transmitter/receiver to a second transmitter/receiver via radio frequency signals. One of ordinary skill in the art would have been lead to make such a modification since the end-users are notified of signals relating to the security of the vehicle, e.g. the employee of a vehicle dealership is notified of a location of a vehicle and the driver of a vehicle is notified of any security violations taking place.

Regarding claim 2, the radio communications system of claim 1, wherein Der Ghazarian further discloses the second transmitter/receiver (Figure 2, 23) is coupled to the end-user with a hard wire (see Figure 5; page 7, section 0072, lines 1-19).

Regarding claim 3, the radio communications system of claim 1, wherein Brockelsby further discloses the second transmitter/receiver is a conductive surface portion of the intrinsic pavement transmitter and antenna (Figure 25: 63, 71; column 9, lines 1-38).

Regarding claim 4, the radio communications system of claim 1, wherein Der Ghazarian further discloses the first transmitter/receiver is adjacent to the RF electromagnetic Transceiver unit in the parking space (page 1, section 0003, lines 1-18; Figure 2, 21).

Regarding claim 5, the radio communications system of claim 1, wherein Brockelsby further discloses the first transmitter/receiver is located in the intrinsic pavement transmitter and antenna (Figure 25: 67; column 9, lines 1-38).

8. Claims 8, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,192,954 by Brockelsby, as applied to claim 6 above, and in further view of U.S. Patent No. 3,962,142 by Freeman et al, hereinafter Freeman.

Regarding claims 8, 12, and 13, the intrinsic pavement transmitter and antenna of claim 6, wherein Brockelsby does not disclose (a) the conductive carbon is at least one member selected from a group consisting of carbon black, carbon fiber, graphite and coke breeze; (b) the suitable wearing course material is at least one member selected from a group consisting of: asphalt and concrete; and (c) the conductive material is intermixed with the wearing course material.

Freeman discloses electrically conducting concrete (see Abstract) comprising: a settable composition for use as a structural material comprising a bonding material and an aggregate, wherein said aggregate contains electrically conducting material comprising a quantity of relatively large electrically conductive particulate material and a quantity of relatively small electrically conductive particulate material (column 1, lines 46-55). Wherein (a) the conductive carbon is at least one member selected from a group consisting of carbon black, carbon fiber, graphite and coke breeze (see Examples 1-7 in columns 3-4); (b) the suitable wearing course material is at least one member selected from a group consisting of: asphalt and concrete (column 7, lines 52-66); and (c) the conductive material is intermixed with the wearing course material (column 7, lines 52-66).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Brockelsby to include conductive material and wearing course material as taught by Freeman to provide a roadway that is able to transmit and receive radio frequencies. One of ordinary skill in the art would have been lead to make such a modification since the conductive carbon and wearing course material intermixed together will provide an electrically conducting roadway.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,192,954 by Brockelsby, as applied to claim 7 above, and in further view of U.S. Patent No. 5,460,649 by Strassman.

Regarding claim 9, the intrinsic pavement transmitter and antenna of claim 7, wherein Brockelsby does not disclose the radio frequency transmittable polymers include: polyacetylene, polyaniline, polypyrrole, polythiophenes, polyethylenedioxythiophene and poly(p-phenylene vinylene)s.

Strassman discloses a fiber-reinforced rubber asphalt composition (see Abstract) comprising: composition that is more durable, longer lasting, more resilient, and less prone to cracking. Wherein fibrous materials employed in the composition are preferably synthetic organic fibers. Examples of suitable polyester fibers include: poly(ethylene terephthalate), poly(1,4-cyclohexanemethylene terephthalate), poly(vinyl acetate), poly(methyl acrylate), poly(methyl methacrylate), and poly(hexamethylene fumarate) (column 2, lines 52-64; column 5, line 61 – column 6, line 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Brockelsby to include conductive material as taught by Strassman



Art Unit: 2645

to provide a roadway that is able to transmit and receive radio frequencies. One of ordinary skill in the art would have been lead to make such a modification since a fiber-reinforced rubber asphalt composition will provide an electrically conducting roadway.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- U.S. Patent No. 5,289,369 by Hirshberg discloses a car rental system wherein a plurality of transceiver stations are positioned along city roads and communicate with a transceiver in a rental car to determine the location of the rental car

11. Any response to this action should be mailed to:

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**Or faxed to:**

(703) 872-9314 (for formal communications intended for entry)

**Or call:**

(703) 306-0377 (for customer service assistance)

Hand-delivered responses should be brought to: Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa Hashem whose telephone number is (703) 305-4302. The examiner can normally be reached on M-F 8:30-5:30.

Art Unit: 2645

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (703) 305-4895. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

LH

lh

July 25, 2004

FAN TSANG  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

A handwritten signature in black ink, appearing to be 'Fan Tsang', written in a cursive style.